wanting either in remarkable forms; thus *E. alpina* is found only on the summit of Mount William, Victoria, at an elevation of over 4,000 feet, and its area is limited to the top of this one peak, for it does not even extend to any of the other summits of the chain of which Mount William is the culminating point. This species has been cultivated in the Melbourne Gardens from seeds collected in 1853, but even in good soil it retains a dwarf bushy habit, having in a quarter of a century not grown over a dozen feet in height, and showing little tendency to form a distinct stem. This species offers, perhaps, the most remarkable example of limited geographical distribution in the group. The Honey-scented Eucalypt (*E. melliodora*) is what is called, among such giants, a middle-sized tree, exceptionally attaining a height of some 200 feet; it will live on poor soil. In an official report presented in 1869 to the Victorian Parliament, Dr. Mueller pointed out that one ton weight of its branches and leaves, if gathered fresh, would yield about 2 lb. 12 oz. of pure potash, and a much larger quantity of crude pearl-ash. Another species, known from its odour as the "peppermint tree" (*E. odorata*), would seem to be a great favourite with a destructive nocturnal cockchafer. Through the immense clearings effected for agricultural settlements, the number of insect-eating birds has greatly diminished, and the increase of this species of Melolontha is not properly kept in check. They prey on the foliage of this Eucalypt, and Mr. Otto Tepper, writing in the *Transactions* of the Philosophical Society of Adelaide (February, 1878), states that it is being extensively destroyed from this fact.

The plates accompanying the descriptions of the species published in these decades give ample details of the leaves, flowers, and fruits of the species; they appear, so far as the stems with inflorescences are concerned, to be perhaps a little too stiff and formal. Sometimes details of the peculiar wood structures are added, and on one special plate transverse sections of the anthers of some fifty-eight species are figured. The London agents for this work are Messrs. Trübner and Co.

OUR BOOK SHELF

A Short Geography of the British Islands. By John Richard Green, M.A., LL.D., and Alice Stopford Green. (London: Macmillan and Co., 1879.)

"GEOGRAPHY, as its name implies, is an 'earth-picturing,' a presentment of earth, or a portion of earth's surface in its actual form, and an indication of the influences which that form has exerted on human history or human society. To give such a picture as this of our own country, in however short and simple a fashion, is the aim of the present work." Mr. and Mrs. Green have carried out the task they have here indicated in a masterly manner. The method they have adopted is the only scientific method on which a text-book of geography of this class can be constructed. Mr. Green, in his preface, speaks with just horror of the majority of text-books, with their dreary array of tables and "facts" and figures, which makes what ought to be one of the most interesting of lessons a burdensome and unprofitable penance.

In the first seven chapters the authors give a clear, instructive, and completely interesting sketch of the great physical features of our islands, and of their relation to the continent of Europe. The mountain groups, the uplands, the plains, and the rivers are brought before the student in their natural or scientific aspect, with just such details easily worked in as will give a clear picture of the various features. The counties are then grouped in their natural order, and each is treated after the same method as that followed in the general sketch. The great physical features are brought out first of all, the regions of the chief natural resources of the country indicated, and thus the mind of the pupil is prepared to understand how the political, social, and industrial features have come to be developed as we find them at the present day. "Facts" enough to satisfy any humane examiner are given, and the principal data and figures are collected in a few well-arranged tables. Great care has evidently been taken to obtain accurate and recent information both with regard to physical geography and topographical, industrial, and other statistics. Besides four coloured maps, there are twenty-four special sectional maps appropriately introduced throughout the book, which must prove of great use in impressing the facts upon the mind of the learner. We trust the Geography will be largely introduced into our schools; we are sure that the scholar at least would welcome it. Its style and method, moreover, render it attractive and instructive reading to those who have long left the school of their childhood behind.

LETTERS TO THE EDITOR

[*The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts. No notice is taken of anonymous communications.*

[*The Editor urgently requests correspondents to keep their letters as short as possible. The pressure on his space is so great that it is impossible otherwise to ensure the appearance even of communications containing interesting and novel facts.*]

The Visibility of Mercury to the Naked Eye

IN NATURE, vol. xxi. p. 474, I find the following: "Mercury was seen at Paris on May (meant for March) 10 and 11 with the naked eye, owing to the transparency of the atmosphere and the great elongation of the planet. . . . The observation was mad by MM. Henry brothers at the Paris Observatory."

Must not "the transparency of the atmosphere" have more to do with the visibility of this planet than is usually supposed? The leading circumstances affecting the question, the amount of the planet's elongation, the inclination of the ecliptic in which it is situated to the horizon, heliocentric latitude, &c., being of course the same at each apparition in England, on the Continent, and in North America, how shall we otherwise account for some of the facts of the case? The remark is current respecting Copernicus that he never obtained a view of Mercury. And perhaps the general impression as to its visibility—that it can be seen only at the most favourable junctures, and for but a few days at a time—is reflected in the quotation above.

As a contribution to the question as it may be affected by the variable element of *climate, atmosphere*, I tabulate herewith the results of several years' careful though not thoroughly systematic observation of the planet at this geographical position, latitude 44° 53′ N., longitude 93° 05′ W., elevation 800 feet above sea-level:—

Year.	Time observed.	Days.	G. Elong.	Date.
			° ′	
1877	April 29 to May 11	13	21 5	May 3
1878	Sept.–Oct.	—	17 53	Sept. 26
1879	Jan. 7 to Jan. 29	22	24 03	Jan. 16
1880	Feb. 29 to March 19	20	18 22	March 10

It will be observed from the table that I followed Mercury with the naked eye at its last appearance in the west (when it was seen in Paris), from February 29 to March 19. I had intended to look for it a day sooner, February 28, as a crucial test as to how early it could be seen at that apparition, for it came into conjunction with Jupiter that day and would be approximately pointed out by the latter planet. But the state of the sky would not permit. Looking for Jupiter the next evening, so as to take bearings from him, I saw Mercury first, over a degree to the north-east of where Jupiter was when found. So I am confident that Mercury was within reach of the naked

eye the evening before at conjunction, save that clouds intervened. And this one day added to the twenty days actually recorded would make the period of visibility on this occasion three full weeks.

At the brightest the planet was fully equal to a 1st magnitude star, and for more than a week as bright as *a* Arietis, two hours to the east of it, with which I frequently compared it. It was brighter than Saturn (also in the twilight) for several evenings, and was seen casually, as any other star would be seen, as I came up town from business, for more than a week. As a friend of mine remarked, "it could be seen with half an eye."

As regards the earlier observations of the table, it will be noted that the planet was seen for thirteen days in the spring of 1877, though first looked for only five days before it reached its greatest eastern elongation. It was again beautifully seen several mornings near the close of September, 1878, coming twice into conjunction with Venus during that time, though the observations were not continued so as to try how long it could be followed.

Finally, in January, 1879, though the position of the ecliptic was not favourable, an elongation of over 24° and splendid skies enabled me to follow Mercury for twenty-two days in succession, or while he made a full one-fourth of a revolution round the sun!

If any interest attaches to this communication it will surely not be from a superfluous attempt to show that Mercury at special times becomes visible to the naked eye; but rather from its giving certain definite facts as to the exact *length of time* the planet has been observed, at the several apparitions indicated. The astronomical conditions of these returns of the planet may be made out with the help of an ephemeris and a celestial globe. I need only add that the observations were made in a climate where hours favourable for astronomical work may frequently be numbered by the hundred monthly, and own that the conditions of sky and atmosphere under which they were made were generally favourable to the best results. T. D. SIMONTON

St. Paul, Minnesota, U.S.A., May 1

Specialised and United Palæontological Research

IN your report of Prof. Huxley's lecture on "The Coming of Age of the Origin of Species" there was one sentence which was pregnant with import to every true devotee of natural history and to every believer in the doctrine of evolution, to wit, that "primary and direct evidence in favour of evolution can be furnished only by palæontology."

Knowing that this is so, I ask, Do there exist amongst all our scientific associations delegated committees whose function it is to watch and foster palæontological research by every possible means? Seeing that so much depends on this kind of evidence, it is surprising that we hear so little of the results of any united efforts in this direction. What we generally hear of are the outcome mostly of private and individual inquiry. And since so much has already been done in this field of investigation by mere individual effort that the "missing links" between widely separated groups of the higher mammalia (not including man) have been discovered so abundantly that it can be said with respect to these, in the words of Prof. Huxley, "Evolution is no longer a speculation, but a statement of historical fact"—since this is the result of private and individual effort, what might not be achieved by united and organised research!

It is a truism that division of labour is the best means of specialising and perfecting any work, and an equally trite saying, that "union is strength;" yet in this, one of the most important of all the fields of biological study, we do not hear of a palæontological society or committee.

What could such a society or committee effect? it may be asked. Would it be expected to take hammer, pickaxe and spade in hand and wander over the wide world in exploration? Certainly not. But remaining at home, it could direct the efforts of private explorers, delegate officers of its own, equipped with the means of questioning the geological record in different parts of the globe, unite with kindred associations in solving problems too arduous for the single resources of one society, dividing alike the expenses and the spoil. Surely it would gratify the heart of every naturalist to learn if palæontological research had assumed this serious and energetic form.

How many opportunities are allowed to slip that might be turned to excellent account! Wars are carried on in countries as yet geologically unexplored, and for want of such a society as I have named there has been no one employed to accompany our armies in the cause of this branch of science. Railways and other engineering works have been carried out in such regions, but no one has been employed to watch the operations in the name of palæontology. Travellers go and return without having been furnished with data to guide researches that might have been intelligently prosecuted in the cause of science.

Will not our leaders in natural science arouse themselves to organised and specialised research in this all-important field of palæontology? W. S. DUNCAN

Stafford, May 29

The Meteorology of South Australia

[WE have been asked to publish the following correspondence on an article on this subject in NATURE, vol. xxi. p. 281.]

South Australia, the Treasury, Adelaide, April 15, 1880

SIR,—I have to thank you for the extract from NATURE, inclosed in your despatch No. 7,842, dated January 31 last, which was duly referred to the Honorable the Minister of Education, and has been perused by the Postmaster-General, &c., and observer, Mr. Todd, C.M.G., a copy of whose observations and remarks upon this subject I now forward for your information and that of the Editor of NATURE. I am, sir, your obedient servant, (Signed) C. MANN

Sir Arthur Blyth, K.C.M.G., Agent-General for South Australia, London

Post and Telegraph Department

Memo. on Letter from Agent-General

METEOROLOGICAL OBSERVATIONS

The writer of the article in NATURE had evidently not received the volume for 1878, but only the monthly numbers. In the volume, as the Agent-General, to whom I have sent a copy, will see, I have given the results of the observations at Port Darwin, Alice Springs, Eucla, Cape Borda, Mount Gambier, and Cape Northumberland. As the Minister is aware, I have recommended that instruments should be supplied to several additional places, which will really give effect to what the writer in NATURE very properly urges. The extent and form in which the observations made at our institutions should be published require consideration on the score of economy of printing; and, as the Minister is aware, the observatory is altogether undermanned for the work now done, and if it were not for my own personal exertions in doing that which might be intrusted to assistants, we could not do what is done. With regard to the other suggestion, I had previously decided on correlating the rainfall and wheat-yield in different districts, in addition to the table, which takes the colony as a whole, now given.

The form in which our observations are published and discussed appears to give general satisfaction, and this will be greatly increased when we have the continuous self-recording instruments I have recommended should be obtained.

April 4 (Signed) C. TODD
P. M. G. and Supt. T.

[Mr. Todd is correct in supposing that the volume for 1878 was not before us—not having been then received—in writing the article on the "Meteorology of South Australia" in NATURE, vol. xxi. p. 281, but only the monthly numbers. The volume has, however, been received quite recently, which, in view of the highly important additions it contains, referred to by Mr. Todd, we shall take an early opportunity of noticing. It gives us the highest satisfaction to learn that of the two points we drew attention to half a year ago, the one relating to the establishment of additional stations had not only been resolved on, but actually carried out in the beginning of 1878, and as regards the other one, referring to the correlating of the rainfall and the wheat-yield in different districts, in addition to the table which deals with the colony as a whole, it had previously been decided by Mr. Todd to discuss the data in the manner suggested.—ED.]

Comparative Curves in Terrestrial Magnetism

AS the comparison of curves obtained at distant stations is at present one of the most important desiderata for the study of terrestrial magnetism, I forward to you traces of two photographs obtained on March 17 last at Vienna and at Stonyhurst. The storm is a remarkable one, and the curves offer a striking illustration of the simultaneous action of the disturbing force on